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		TO DESCRIPTION	ATTORNEY DOCKET NO.	CONFIRMATION NO
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		2413
09/677,304	09/29/2000	Yukihisa Takeuchi	789_056	2,
23171	7590 11/23/2001		EXAMINER DOUGHERTY, THOMAS M	
BURR & BR PO BOX 7068				
SYRACUSE,	NY 13261-7068		ART UNIT	PAPER NUMBER
			2834	
			DATE MAILED: 11/23/2001	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	09/677,304	TAKEUCHI ET AL.				
Office Action Summary	Examiner	Art Unit				
, Office Action Summary	Thomas M. Dougherty	2834				
The MAILING DATE of this communication ap	pears on the cover sheet with t	the correspondence address				
Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a rep - If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statut - Any reply received by the Office later than three months after the mailir earned patent term adjustment. See 37 CFR 1.704(b). Status	136(a). In no event, however, may a reply by within the statutory minimum of thirty (3 will apply and will expire SIX (6) MONTH: e, cause the application to become ABAN and date of this communication, even if time	(b) days will be considered timely. Strom the mailing date of this communication.				
1) Responsive to communication(s) filed on 29	September 2000 .					
2a) ☐ This action is FINAL . 2b) ☑ T	his action is non-final.	are prosecution as to the merits is				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4)⊠ Claim(s) <u>1-5</u> is/are pending in the application.						
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-5</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and	l/or election requirement.					
Application Papers						
9) The specification is objected to by the Examiner.						
10) ☐ The drawing(s) filed on 29 September 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Applicant may not request that any objection to	the drawing(s) be neid in abeya	sanproved by the Examiner.				
11) The proposed drawing correction filed on	Is: a) approved b) di	Suppliered 2, and assessment				
If approved, corrected drawings are required in reply to this Office action.						
12) The oath or declaration is objected to by the	Examiner.					
Priority under 35 U.S.C. §§ 119 and 120						
13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).						
a)⊠ All b)□ Some * c)□ None of:	to have been received					
1. Certified copies of the priority docum	ents have been received.	oplication No.				
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.						
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).						
a) ☐ The translation of the foreign language provisional application has been received. 15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.						
Attachment(s)						
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948 3) Information Disclosure Statement(s) (PTO-1449) Paper No	3) 5) Notice of	Summary (PTO-413) Paper No(s) · Informal Patent Application (PTO-152)				

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakashima et al. (US 4,700,177). Nakashima shows a piezoelectric/electrostrictive device (e.g. fig. 10) comprising: a pair of mutually opposing thin plate sections (31, 32) made of metal (col. 3, I. 45) and a fixation section (at left of thin plate sections) for supporting said thin plate sections (31, 32); an object (37) attached to forward end portions of said pair of thin plate sections (31, 32); and one or more piezoelectric/electrostrictive elements (35, 36) arranged on at least one thin plate section (31 or 32 or both) of said pair of thin plate sections (31, 32), wherein: an areal size of a surface of said object (37) opposed to said thin plate section is larger than an areal size of an object (37) attachment surface of said thin plate section, determined by sight. A first adhesive is (inherent or the piezoelectric/electrostrictive elements would fall off) allowed to intervene between said piezoelectric/electrostrictive element (35 and or 36) and said thin plate section (31 and/or 32).

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Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoki (JP 2-119278). Aoki shows a piezoelectric/electrostrictive device (e.g. figs. 2 and 4) comprising: a pair of mutually opposing thin plate sections (9) made of metal (as understood from their function as electrodes) and a fixation section (13) for supporting said thin plate sections (9); an object (15) attached to forward end portions of said pair of thin plate sections (9); and one or more piezoelectric/electrostrictive elements (10) arranged on at least one thin plate section (9) of said pair of thin plate sections (9), wherein: an areal size of a surface of said object (15) opposed to said thin plate section is larger than an areal size of an object (15) attachment surface of said thin plate section, determined by sight. A first adhesive is (inherent or the piezoelectric/electrostrictive elements would fall off) allowed to intervene between said piezoelectric/electrostrictive element (10) and said thin plate section (9). Said object (15) is secured to said object attachment surface of said thin plate section (9) by the aid of a second adhesive. Note that if this were not so, the component would not be maintained between the plates (9).

Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by Miyazoe et al. (US 6,267,146). Miyazoe shows a piezoelectric/electrostrictive device (e.g. fig. 8) comprising: a pair of mutually opposing thin plate sections (222, 224) made of metal (col. 9, II. 52-54) and a fixation section (220) for supporting said thin plate sections (222, 224); an object (also 220) attached to forward end portions of said pair of thin plate sections (222, 224); and one or more piezoelectric/electrostrictive elements (226a,

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226b, 226c, 226d) arranged on at least one thin plate section (222 and/or 224) of said pair of thin plate sections (222, 224), wherein: an areal size of a surface of said object (220) opposed to said thin plate section is larger than an areal size of an object (220) attachment surface of said thin plate section, determined by sight

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakashima et al. (US 4,700,177) in view of Takeuchi et al. (US 6,091,182). Given the invention of Nakashima as noted above, he doesn't discuss an organic resin, glass, brazing material or solder for adhesion of his piezoelectric/electrostrictive elements to his thin plates. Takeuchi notes at column 25, lines 35-38 use of "organic resins, ... and glass" for adhering components in a piezoelectric/electrostrictive device. He doesn't show the structure of two thin plates, a fixation section or object between the thin plates. It would have been obvious to one having ordinary skill in the art to employ the adhesives noted by Takeuchi in the device of Nakashima at the time of his invention since these are known and readily available materials which are shown by Takeuchi to be used in the art.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art cited reads on some aspects of the claimed invention.

Direct inquiry to Examiner Dougherty at (703) 308-1628.

tmd

November 14, 2001

THOMAS M. DOUGHERTY
PRIMARY EXAMINER

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